

# Symposium Three-Dimensional Nanostructures: From Magnetism to Superconductivity (SYMS)

jointly organized by  
the Magnetism Division (MA),  
the Low Temperature Physics Division (TT), and  
the Crystalline Solids and their Microstructure Division (KFM)

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Three-dimensional nanostructures of superconductors, semiconductors, magnetic and dielectric materials have become one of the major research avenues in condensed-matter physics, because of a variety of novel geometry- and topology-induced phenomena: On one hand, fine control of the geometry changes the fundamental behaviour by inducing topological transitions, effective anisotropies and chirality, new topologies of spin textures, as well as can lead to unusual dynamic properties, including non-reciprocity and ultra-fast responses. On the other hand, 3D geometries offer a route to significant increases in density and interconnectivity which are key for unconventional computing architectures. This Interdisciplinary Session brings together experts from the communities of fundamental and applied research in the fields of superconductivity and magnetism to identify common challenges in extending different materials systems to the third dimension.

## Overview of Invited Talks and Sessions

(Lecture hall H 0105)

### Invited Talks

SYMS 1.1	Mon	9:30–10:00	H 0105	<b>3D Racetrack Memory</b> — ●STUART PARKIN
SYMS 1.2	Mon	10:00–10:30	H 0105	<b>Curved electronics: geometry-induced effects at the nanoscale</b> — ●PAOLA GENTILE
SYMS 1.3	Mon	10:30–11:00	H 0105	<b>Curvilinear micromagnetism</b> — ●DENYS MAKAROV
SYMS 1.4	Mon	11:15–11:45	H 0105	<b>Study of 3D superconducting nanoarchitectures</b> — ●ROSA CÓRDOBA
SYMS 1.5	Mon	11:45–12:15	H 0105	<b>3D nanoarchitectures for superconductivity and magnonics</b> — ●OLEKSANDR DOBROVOLSKIY

### Sessions

SYMS 1.1–1.5	Mon	9:30–12:15	H 0105	<b>Three-Dimensional Nanostructures: From Magnetism to Superconductivity</b>
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